WHAT IS CLAIMED IS:

1. An inkjet printing apparatus comprising:

a plurality of pressure chambers each having one end connected to a nozzle;

an actuator that can take two states of a first state wherein the volume of a pressure chamber is V1, and a second state wherein the volume of the pressure chamber is V2 larger than V1; and

an actuator controller for supplying a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle,

a pulse width Tw of the voltage pulse being shorter than a pulse width Tmax at which a maximum ejection speed of ink ejected from the nozzle is obtained.

2. The inkjet printing apparatus according to claim 1, wherein the pulse width Tw of the voltage pulse is not less than 0.7 Tmax and not more than 0.8 Tmax.

3. An inkjet printing apparatus comprising:

a plurality of pressure chambers each having one end connected to a nozzle;

an actuator that can take two states of a first state wherein the volume of a pressure chamber is V1, and a second state wherein the volume of the pressure chamber is V2 larger than V1; and

an actuator controller for changing a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle,

the actuator controller controlling a time period Tw from a timing T1 when the actuator starts to change from the first state to the second state, until a timing T2 when the actuator starts to change from the second state to the first state, to be shorter than a pulse width Tmax at which a maximum ejection speed of ink ejected from the nozzle is obtained.

4. The inkjet printing apparatus according to claim 3, wherein the time period Tw from the timing T1 when the actuator starts to change from the first state to the second state until the timing T2 when the actuator starts to change from the second state to the first state is not less than 0.7 Tmax and not more than 0.8 Tmax.

5. The inkjet printing apparatus according to claim 3, wherein the actuator controller supplies a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle.

6. An actuator controller for controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of

pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V1, and a second state wherein the volume of the pressure chamber is V2 larger than V1,

the actuator controller supplying a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle,

a pulse width Tw of the voltage pulse being shorter than a pulse width Tmax at which a maximum ejection speed of ink ejected from the nozzle is obtained.

7. The actuator controller according to claim 6, wherein the pulse width Tw of the voltage pulse is not less than 0.7 Tmax and not more than 0.8 Tmax.

8. An actuator controller for controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V1, and a second state wherein the volume of the pressure chamber is V2 larger than V1,

the actuator controller changing a state of the actuator from the first state to the second state and then

to the first state again so that ink is ejected through the nozzle,

the actuator controller controlling a time period Tw from a timing T1 when the actuator starts to change from the first state to the second state, until a timing T2 when the actuator starts to change from the second state to the first state, to be shorter than a pulse width Tmax at which a maximum ejection speed of ink ejected from the nozzle is obtained.

9. The actuator controller according to claim 8, wherein the time period Tw from the timing T1 when the actuator starts to change from the first state to the second state until the timing T2 when the actuator starts to change from the second state to the first state is not less than 0.7 Tmax and not more than 0.8 Tmax.

10. The actuator controller according to claim 8, the actuator controller supplies a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle.

11. A method of controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state

wherein the volume of a pressure chamber is V1, and a second state wherein the volume of the pressure chamber is V2 larger than V1, a state of the actuator changing from the first state to the second state and then to the first state again so that ink is ejected through the nozzle,

the method comprising a step of supplying a voltage pulse to the actuator, the voltage pulse having a pulse width Tw shorter than a pulse width Tmax at which a maximum ejection speed of ink ejected from the nozzle is obtained.

12. The method according to claim 11, wherein the pulse width Tw of the voltage pulse is not less than 0.7 Tmax and not more than 0.8 Tmax.

13. A method of controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V1, and a second state wherein the volume of the pressure chamber is V2 larger than V1, a state of the actuator changing from the first state to the second state and then to the first state again so that ink is ejected through the nozzle,

the method comprising a step of controlling a time period Tw from a timing T1 when the actuator starts to change from the first state to the second state, until a

timing T2 when the actuator starts to change from the second state to the first state, to be shorter than a pulse width Tmax at which a maximum ejection speed of ink ejected from the nozzle is obtained.

14. The method according to claim 13, wherein the time period Tw from the timing T1 when the actuator starts to change from the first state to the second state until the timing T2 when the actuator starts to change from the second state to the first state is not less than 0.7 Tmax and not more than 0.8 Tmax.

15. The method according to claim 13, wherein a voltage pulse is supplied to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle.